

REMARKS

Status of the Application

Claims 1-10 are pending in the application and have been examined.

The Office Action and Advisory Action indicate that claims 1-11 are pending and claim 11 is withdrawn from consideration. Applicant submits that claim 11 was canceled in the Amendment filed on August 7, 2009, and therefore is no longer pending. Accordingly, only claims 1-10 are presently pending in the application.

Summary of Substance of Interview

Applicant thanks the Examiner for the courteous and productive telephonic interview conducted on February 24, 2010. During the interview, the Examiner's interpretation of the Hamabe reference was discussed. The Examiner indicated that further claim amendments would be required to overcome the reference.

Claim Rejections

Claims 1, 2, 6-8, 10 --- 35 U.S.C. § 103(a)

Claims 1, 2, 6-8, 10 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over an article, *Evolving WCDMA*, by Hedberg *et al.* ("Hedberg") in view of an article, *Transmit Diversity applied on the CDMA/TDD cellular system*, by Hiramatsu *et al.* ("Hiramatsu"), U.S. Pat. Pub. No. 2003/0210668 to Malladi *et al.* ("Malladi"), and U.S. Patent No. 6,449,484 to Grubeck *et al.* ("Grubeck"), and further in view of U.S. Patent No. 5,613,200 to Hamabe ("Hamabe"). Applicant traverses this rejection.

Addressing claim 1, the combination of Hedberg, Hiramatsu, Malladi, Grubeck, and Hamabe does not disclose or suggest at least “splitting the plurality of user equipments substantially evenly into a first group of user equipments which are assigned to a first carrier frequency and into a second group of user equipments which are assigned to a second carrier frequency, … wherein the first carrier frequency and the second carrier frequency are alternately assigned to the plurality of user equipments in an order in which the plurality of user equipments become active, [and] wherein each of the user equipments is assigned to one of the first and second carrier frequencies and to one of the first and second antennas,” as recited in the claim.

The Examiner concedes that Hedberg, Hiramatsu, and Malladi do not disclose these features and relies on Grubeck to allegedly make obvious assigning antennas to user groups, and on Hamabe to allegedly make obvious alternately assigning carrier frequencies to user equipments.

With regard to Grubeck, the reference discloses only making assumptions regarding mobile station position and power requirements made for performing the calculation of the cost function (see column 8, lines 20-25). Grubeck does not disclose or suggest “wherein each of the user equipments is assigned to one of the first and second carrier frequencies and to one of the first and second antennas,” as recited in the claim 1.

Further, in rejecting claim 1, the Examiner alleges that transmit diversity techniques are well known in the art (Office Action, pages 3-4). However, the Examiner is unable to provide a reference disclosing that a well known transmit diversity technique involves assigning each of the user equipments to one of the first and second carrier frequencies and to one of the first and

second antennas, as required by the claim. Rather, the Examiner relies on hindsight provided by Applicant's disclosure to allege a rationale for combining the references. Applicant respectfully submits that the Examiner's reliance on the hindsight provided by Applicant's disclosure is impermissible. Accordingly, it would not have been obvious to one of ordinary skill in the art at the time the invention was made to make the attempted combination of references.

With further regard to claim 1, the Examiner relies on Hamabe to allegedly disclose that "the first carrier frequency and the second carrier frequency are alternately assigned to the plurality of user equipments in an order in which the plurality of user equipments become active." Hamabe is directed to a method of allocating radio channels. FIGS. 3 and 7-10 cited by the Examiner merely disclose alternative zone configurations for channel allocation based on different embodiments of the invention disclosed by Hamabe. However, Hamabe fails to disclose or suggest alternately assigning first and second carrier frequencies to a plurality of user equipments in an order in which the plurality of user equipments become active, as required by claim 1. In other words, Hamabe provides alternative channel allocations according to zones based on various embodiments of the disclosed invention.

As previously noted, the Examiner indicates that diversity techniques are well known (Office Action, pages 3-4). However, the Examiner is unable to provide a reference which discloses alternately assigning first and second carrier frequencies to a plurality of user equipments is a well known diversity technique. Instead, the Examiner merely alleges that it would be obvious to alternately assign first and second carrier frequencies to a plurality of user equipments, as recited in claim 1. Applicant respectfully submits that the Examiner

impermissibly relies on hindsight provided by Applicant's disclosure to provide a rationale for rejecting the claim. Therefore, it would not have been obvious to one of ordinary skill in the art at the time the invention was made to combine the references as attempted by the Examiner.

Further, first and second carrier frequencies of the present exemplary embodiments are assigned "in order in which the plurality of user equipments become active." In a communication system, the user equipments (UEs) can be randomly activated or deactivated by mobility of UEs or by a power on/off. However, the channels of Hamabe are subordinated to sectoral zones set fixedly by the system configuration, and the channels cannot be activated or deactivated as with the UEs (see column 8, lines 1-16). Thus, the allocation of the channels is performed in order of a sector index and a channel index. Therefore, Hamabe is silent as to channel allocation based on activation order of the UEs.

In view of the above, Applicant respectfully submits that, absent the hindsight provided by Applicant's disclosure, it would not have been obvious to one of ordinary skill in the art at the time the invention was made to combine the references as attempted by the Examiner. Further, even if combined, the cited references would not disclose or suggest all of the features of claim 1.

Accordingly, claim 1 is patentable over the combination of Hedberg, Hiramatsu, Malladi, Grubeck, and Hamabe. Claims 6, 7, and 10 contain features similar to the features recited in claim 1 and are therefore patentable for similar reasons. Claims 2 and 8 are patentable at least by virtue of their dependencies from claims 1 and 7, respectively.

Claims 3-5 and 9 --- 35 U.S.C. § 103(a)

Claims 3-5 and 9 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Hedberg, Hiramatsu, Malladi, Grubeck, Hamabe, and U.S. Pat. Pub. No. 2002/0145988 to Dahlman *et al.* ("Dahlman"). Applicant traverses this rejection.

The combination of Hedberg, Hiramatsu, Malladi, Grubeck, Hamabe, and Dahlman does not disclose or suggest at least the above-noted features incorporated into claims 3-5 and 9 by virtue of their dependencies from claims 1 and 7, respectively. As established above, the combination of Hedberg, Hiramatsu, Malladi, Grubeck, and Hamabe does not disclose or suggest these features. Dahlman does not cure the deficiencies of the Hedberg-Hiramatsu-Malladi-Grubeck-Hamabe combination.

The Examiner relies on Dahlman to allegedly disclose assigning a carrier frequency from a set of available carrier frequencies. Dahlman, however, does not disclose or suggest "splitting the plurality of user equipments substantially evenly into a first group of user equipments which are assigned to a first carrier frequency and into a second group of user equipments which are assigned to a second carrier frequency, ... wherein the first carrier frequency and the second carrier frequency are alternately assigned to the plurality of user equipments in an order in which the plurality of user equipments become active, [and] wherein each of the user equipments is assigned to one of the first and second carrier frequencies and to one of the first and second antennas," as incorporated into the claims.

Accordingly, since the combination of Hedberg, Hiramatsu, Malladi, Grubeck, Hamabe, and Dahlman does not disclose or suggest all of the claimed features, claims 3-5 and 9 are patentable over the combined references.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned attorney at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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